

RECEIVED MAY 16 2001

Declaration for Patent Application

Docket Number: 1797.014PC02

As a below named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed and for which a patent is sought on the invention entitled Distributed Shared Key Generation and Management Using Fractional Keys, the specification of which is attached hereto unless the following box is checked:

- ☒ was filed on October 1, 1999;
as United States Application Number or PCT International Application Number PCT/US99/22710; and
was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information that is material to patentability as defined in 37 C.F.R. § 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT international application, which designated at least one country other than the United States listed below, and have also identified below any foreign application for patent or inventor's certificate, or PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)			Priority Claimed	
_____	_____	_____	<input type="checkbox"/> Yes	<input type="checkbox"/> No
(Application No.)	(Country)	(Day/Month/Year Filed)		
_____	_____	_____	<input type="checkbox"/> Yes	<input type="checkbox"/> No
(Application No.)	(Country)	(Day/Month/Year Filed)		

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below.

60/102,633 October 1, 1998
(Application No.) (Filing Date)

60/131,833 April 29, 1999
(Application No.) (Filing Date)

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or under § 365(c) of any PCT international application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose information that is material to patentability as defined in 37 C.F.R. § 1.56 that became available between the filing date of the prior application and the national or PCT international filing date of this application.

PCT/US99/22710 October 1, 1999 Pending
(Application No.) (Filing Date) (Status - patented, pending, abandoned)

(Application No.) (Filing Date) (Status - patented, pending, abandoned)


Send Correspondence to:

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 New York Avenue, N.W.
Suite 600
Washington, D.C. 20005-3934

Direct Telephone Calls to:

(202) 371-2600

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor	Raadhakrishnan POOVENDRAN	
Signature of sole or first inventor		Date
Residence	Greenbelt, Maryland	
Citizenship	United States	
Mailing Address	P.O. Box 474, Greenbelt, Maryland 20768	
Full name of second inventor	Matthew Scott CORSON	
Signature of second inventor		Date MAY 14, 2001
Residence	Kensington, Maryland MD	
Citizenship	United States	
Mailing Address	10122 Ashwood Drive, Kensington, Maryland 20895	
Full name of third inventor	John S. BARAS	
Signature of third inventor		Date
Residence	Potomac, Maryland	
Citizenship	United States	
Mailing Address	10912 Burbank Drive, Potomac, Maryland 20854	
(Supply similar information and signature for subsequent joint inventors, if any)		

SKGF Rev. 11/8/00 mac

Appl. No. PCT/US99/22710
Docket No. 1797.014PC02

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Full name of sole or first inventor	Ramkrishnan POOVENDRAN
Signature of sole or first inventor	<i>P. Poovendran</i> 3/30/2001 Date
Residence	Greenbelt, Maryland SEATTLE, WA WA
Citizenship	United States
Mailing Address	EE DEPT. BOX 352500, UNIVERSITY OF WASHINGTON 20-Box 352500, Greenbelt, Maryland 20768 SEATTLE, WA 98195-2500
Full name of second inventor	Matthew Scott CORSON
Signature of second inventor	
Residence	Kensington, Maryland
Citizenship	United States
Mailing Address	10122 Ashwood Drive, Kensington, Maryland 20895
Full name of third inventor	John S. BARAS
Signature of third inventor	
Residence	Potomac, Maryland
Citizenship	United States
Mailing Address	10912 Burbank Drive, Potomac, Maryland 20854
(Supply similar information and signature for subsequent joint inventors, if any)	

- Page 2 of 2 -

TOTAL P.03

Appl. No. PCT/US99/22710
Docket No. 1797.014PC02

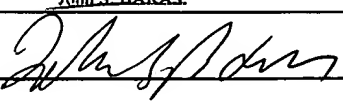
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Full name of sole or first inventor	Raadhakrishnan POOVENDRAN	
Signature of sole or first inventor		Date
Residence	Greenbelt, Maryland	
Citizenship	United States	
Mailing Address	P.O. Box 474, Greenbelt, Maryland 20768	
Full name of second inventor	Matthew Scott CORSON	
Signature of second inventor		Date
Residence	Kensington, Maryland	
Citizenship	United States	
Mailing Address	10122 Ashwood Drive, Kensington, Maryland 20895	
Full name of third inventor	John S. BARAS	
Signature of third inventor		April 25, 2001 Date
Residence	Potomac, Maryland MD	
Citizenship	United States	
Mailing Address	10912 Burbank Drive, Potomac, Maryland 20854	
(Supply similar information and signature for subsequent joint inventors, if any)		

POWER OF ATTORNEY FROM ASSIGNEE

University of Maryland, College Park, a university of Maryland, having a principal place of business at Office of Technology Commercialization, University of Maryland, College Park, 6200 Baltimore Avenue, Suite 300, College Park, MD 20742-9520, is assignee of the entire right, title and interest for the United States of America (as defined in 35 U.S.C. § 100), by reason of an Assignment to the Assignee executed on 4/26/00, 4/20/00, and 4/24/00 of an invention known as Distributed Shared Key Generation and Management Using Fractional Keys (Attorney Docket No. 1797.014PC02), which is disclosed and claimed in a patent application of the same title by the inventor(s) Poovendran et al. (said application filed on October 1, 1999 at the U.S. Patent and Trademark Office, having Application Number PCT/US99/22710).

The Assignee hereby appoints the following U.S. attorneys to prosecute this application and any continuation, divisional, continuation-in-part, or reissue application thereof, and to transact all business in the U.S. Patent and Trademark Office connected therewith: Robert Greene Sterne, Esq., Reg. No. 28,912; Edward J. Kessler, Esq., Reg. No. 25,688; Jorge A. Goldstein, Esq., Reg. No. 29,021; David K.S. Cornwell, Esq., Reg. No. 31,944; Robert W. Esmond, Esq., Reg. No. 32,893; Tracy-Gene G. Durkin, Esq., Reg. No. 32,831; Michele A. Cimbala, Esq., Reg. No. 33,851; Michael B. Ray, Esq., Reg. No. 33,997; Robert E. Sokohl, Esq., Reg. No. 36,013; Eric K. Steffe, Esq., Reg. No. 36,688; Michael Q. Lee, Esq., Reg. No. 35,239; Steven R. Ludwig, Esq., Reg. No. 36,203; John M. Covert, Esq., Reg. No. 38,759; and Linda E. Alcorn, Esq., Reg. No. 39,588. The Assignee hereby grants said attorneys the power to insert on this Power of Attorney any further identification that may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

Send correspondence to:

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 New York Avenue, N.W.
Suite 600
Washington, D.C. 20005-3934
U.S.A.

Direct phone calls to 202-371-2600.

FOR: University of Maryland, College Park

SIGNATURE

BY: James A. Poulos, III

TITLE: Executive Director

DATE: May 24, 2001

Certificate Under 37 C.F.R. § 3.73(b)

Applicant/Patent Owner: Poovendran et al.

Application No./Patent No.: PCT/US99/22710

Filed/Issue Date: October 1, 1999

Entitled: Distributed Shared Key Generation and Management Using Fractional Keys

University of Maryland, College Park

(Name of Assignee)

, a university

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest, or
2. ☐ an assignee of an undivided part interest

in the patent application/patent identified above by virtue of either:

- A. ☒ An Assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

OR

- B. ☐ A chain of title from the inventor(s) of the patent application/patent identified above to the current assignee as shown below:

1. From: _____ To: _____
The document was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
2. From: _____ To: _____
The document was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
3. From: _____ To: _____
The document was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☒ Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the PTO. See MPEP 302-302.8]

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

Date: May 28, 2001

Name: James A. Poulos, III

Title: Executive Director

Signature: [Signature]

DO NOT FORWARD
TO ASSIGNMENT BRANCH
NOT FOR RECORDATION

RECEIVED APR 25 2000

INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

THIS AGREEMENT by and between **Mathew Scott Corson**, an individual having a principal residence at **10122 Ashwood Drive, Kensington, Maryland 20895** (hereinafter referred to as "Assignor"), and the University of Maryland, having a principal office at Office of Technology Liaison, College Park, Maryland 20742 (hereinafter referred to as "Assignee").

W I T N E S S E T H :

WHEREAS, Assignor has created and developed certain inventions, improvements, discoveries, software, or other intellectual property, as described in **Assignee Invention Disclosure No. IS-98-012 and IS-99-027 and in International Application No. PCT/US99/22710 titled "Distributed Shared Key Generation and Management Using Fractional Keys" filed October 1, 1999** (hereinafter collectively referred to as the "Works"); and

WHEREAS, Assignor agrees that, to the extent the Works are, by operation of law or otherwise, not deemed to be works made for hire within the meaning of the Copyright Act, (Title 17, U.S.C. Section 101, et seq.), Assignor agrees to assign all of his/her right, title and interest in and to the Works to Assignee, and further agrees to take such further actions and to execute such further instruments that Assignee might find reasonable or necessary to perfect or to evidence more clearly its right and claim to exclusive ownership of all of Assignor's worldwide intellectual property interests respecting the Works; and

WHEREAS, Assignor and Assignee now wish to perfect and to evidence more clearly the right and claim of Assignee to exclusive ownership of all of Assignor's intellectual property interests respecting the Works.

NOW, THEREFORE, in consideration of the rights granted to Assignor under the University of Maryland Patent Policy and Copyright Policy, as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time, and other good and valuable consideration furnished by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged, Assignor and Assignee, intending to be legally bound, do hereby covenant and agree as follows:

Section 1. Assignment of the Works.

Assignor hereby assigns, transfers and conveys to Assignee, its successors, assigns or other legal representatives, without the necessity of any consideration in addition to that recited herein, all of Assignor's right, title and interest in and to the Works. This assignment shall be operative with respect to all intellectual property rights in and to the Works, including (without limitation), (i) all copyrights in the United States and elsewhere, including all rights of registration, publication,

renewal, rights to create derivative works and all other rights incident to copyright ownership, for the residue now unexpired of the present term of any and all such copyrights and any term thereafter granted during which the Works are entitled to copyright; (ii) all trade secrets, inventions, know-how, ideas and confidential information embodied or reflected in the Works, including any shop rights, for the longest period of protection accorded to such interest under applicable law; and (iii) all patent rights in the United States and elsewhere, including all rights of registration, publication, renewal, and all other works incident to copyright ownership, for the longest period of protection accorded to such interests under applicable law.

Section 2. University of Maryland Copyright and Patent Policies.

The assignment of rights perfected hereunder shall be governed by the University of Maryland Patent Policy and Copyright Policy as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time. Royalty income shall be allocated as set forth in those policies.

Section 3. Warranty.

Assignor warrants and covenants that he/she is an author or inventor of the Works and that as of the date of this Assignment, has taken no action respecting the Works which purports or attempts to transfer or encumber any right, title or interest in or to the Works to any other party; and covenants not to take such action in the future.

Section 4. Jurisdiction.

The validity, interpretation, and effect of this agreement shall be governed by the laws of the State of Maryland and of the United States of America. Any legal proceedings involving claims or disputes regarding this agreement shall be brought in the appropriate court in the State of Maryland.

WHEREAS, the parties have caused this Assignment to be executed on the dates below.

ASSIGNOR

Agreed to by: _____

Date: _____

Printed Name: Mathew Scott Corson

ASSIGNEE (The University of Maryland)

Acknowledged and Agreed to by: _____

Date: _____

James A. Poulos, III

Title: _____

Acting Executive Director

DO NOT FORWARD
TO ASSIGNMENT BRANCH
NOT FOR RECORDATION

INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

THIS AGREEMENT by and between **Raadhakrishnan Poovendran**, an individual having a principal residence at **P.O. Box 474, Greenbelt, Maryland 20768** (hereinafter referred to as "Assignor"), and the University of Maryland, having a principal office at Office of Technology Liaison, College Park, Maryland 20742 (hereinafter referred to as "Assignee").

W I T N E S S E T H :

WHEREAS, Assignor has created and developed certain inventions, improvements, discoveries, software, or other intellectual property, as described in **Assignee Invention Disclosure No. IS-98-012 and IS-99-027 and in International Application No. PCT/US99/22710 titled "Distributed Shared Key Generation and Management Using Fractional Keys" filed October 1, 1999** (hereinafter collectively referred to as the "Works"); and

WHEREAS, Assignor agrees that, to the extent the Works are, by operation of law or otherwise, not deemed to be works made for hire within the meaning of the Copyright Act, (Title 17, U.S.C. Section 101, et seq.), Assignor agrees to assign all of his/her right, title and interest in and to the Works to Assignee, and further agrees to take such further actions and to execute such further instruments that Assignee might find reasonable or necessary to perfect or to evidence more clearly its right and claim to exclusive ownership of all of Assignor's worldwide intellectual property interests respecting the Works; and

WHEREAS, Assignor and Assignee now wish to perfect and to evidence more clearly the right and claim of Assignee to exclusive ownership of all of Assignor's intellectual property interests respecting the Works.

NOW, THEREFORE, in consideration of the rights granted to Assignor under the University of Maryland Patent Policy and Copyright Policy, as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time, and other good and valuable consideration furnished by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged, Assignor and Assignee, intending to be legally bound, do hereby covenant and agree as follows:

Section 1. Assignment of the Works.

Assignor hereby assigns, transfers and conveys to Assignee, its successors, assigns or other legal representatives, without the necessity of any consideration in addition to that recited herein, all of Assignor's right, title and interest in and to the Works. This assignment shall be operative with respect to all intellectual property rights in and to the Works, including (without limitation), (i) ~~all copyrights in the United States and elsewhere, including all rights of registration, publication, renewal, rights to create derivative works and all other rights incident to copyright ownership, for the~~

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residue now unexpired of the present term of any and all such cop-
granted during which the Works are entitled to copyright; (ii) all trade se-
ideas and confidential information embodied or reflected in the Works, in term thereafter
the longest period of protection accorded to such interest under applicable s, know-how,
rights in the United States and elsewhere, including all rights of registration, p, p rights, for
all other works incident to copyright ownership, for the longest period of protection, all patent
interests under applicable law. renewal, and
to such

Section 2. University of Maryland Copyright and Patent Policies.

The assignment of rights perfected hereunder shall be governed by the University of Maryland Patent Policy and Copyright Policy as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time. Royalty income shall be allocated as set forth in those policies.

Section 3. Warranty.

Assignor warrants and covenants that he/she is an author or inventor of the Works and that as of the date of this Assignment, has taken no action respecting the Works which purports or attempts to transfer or encumber any right, title or interest in or to the Works to any other party; and covenants not to take such action in the future.

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The validity, interpretation, and effect of this agreement shall be governed by the laws of the State of Maryland and of the United States of America. Any legal proceedings involving claims or disputes regarding this agreement shall be brought in the appropriate court in the State of Maryland.

WHEREAS, the parties have caused this Assignment to be executed on the dates below.

ASSIGNOR

Agreed to by: P. Raadhakrishnan

Date: 4/26/00

Printed Name: Raadhakrishnan Poovendran

ASSIGNEE (The University of Maryland)

Acknowledged and Agreed to by:

James A. Poulos, III
James A. Poulos, III
Acting Executive Director

Title:

Date: May 1, 2000

DO NOT FORWARD
TO ASSIGNMENT BRANCH
NOT FOR RECORDATION

INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

THIS AGREEMENT by and between **John S. Baras**, an individual having a principal residence at **109112 Burbank Drive, Potomac, Maryland 20854** (hereinafter referred to as "Assignor"), and the University of Maryland, having a principal office at Office of Technology Liaison, College Park, Maryland 20742 (hereinafter referred to as "Assignee").

W I T N E S S E T H :

WHEREAS, Assignor has created and developed certain inventions, improvements, discoveries, software, or other intellectual property, as described in **Assignee Invention Disclosure No. IS-98-012 and IS-99-027 and in International Application No. PCT/US99/22710 titled "Distributed Shared Key Generation and Management Using Fractional Keys" filed October 1, 1999** (hereinafter collectively referred to as the "Works"); and

WHEREAS, Assignor agrees that, to the extent the Works are, by operation of law or otherwise, not deemed to be works made for hire within the meaning of the Copyright Act, (Title 17, U.S.C. Section 101, et seq.), Assignor agrees to assign all of his/her right, title and interest in and to the Works to Assignee, and further agrees to take such further actions and to execute such further instruments that Assignee might find reasonable or necessary to perfect or to evidence more clearly its right and claim to exclusive ownership of all of Assignor's worldwide intellectual property interests respecting the Works; and

WHEREAS, Assignor and Assignee now wish to perfect and to evidence more clearly the right and claim of Assignee to exclusive ownership of all of Assignor's intellectual property interests respecting the Works.

NOW, THEREFORE, in consideration of the rights granted to Assignor under the University of Maryland Patent Policy and Copyright Policy, as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time, and other good and valuable consideration furnished by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged, Assignor and Assignee, intending to be legally bound, do hereby covenant and agree as follows:

Section 1. Assignment of the Works.

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residue now unexpired of the present term of any and all such copyrights and any term thereafter granted during which the Works are entitled to copyright; (ii) all trade secrets, inventions, know-how, ideas and confidential information embodied or reflected in the Works, including any shop rights, for the longest period of protection accorded to such interest under applicable law; and (iii) all patent rights in the United States and elsewhere, including all rights of registration, publication, renewal, and all other works incident to copyright ownership, for the longest period of protection accorded to such interests under applicable law.

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WHEREAS, the parties have caused this Assignment to be executed on the dates below.

ASSIGNOR

Agreed to by: John S. Baras

Date: 4/20/2000

Printed Name: John S. Baras

ASSIGNEE (The University of Maryland)

Acknowledged and Agreed to by:

James A. Poulos, III
James A. Poulos, III
Acting Executive Director

Date: May 1, 2000

Title: